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4.4.2 Propagation Constant4.4.3 Voltage Reflection Coefficient; 4.4.4 Voltage Standing Wave Ratio (VSWR); 4.5 Grounding; 4.6 Common Mode and Differential Mode Currents; 4.7 Nonlinearity Effects; 4.8 Two-Port Circuits and S-Parameters; 4.9 Microstipline Circuits; 4.9.1 Characteristics of a Microstripline; 4.9.2 Basic Microstrip Circuits; 4.10 Crosstalk; References; Bibliography; 5 Antennas and Antenna Calibration; 5.1 Fundamental Antenna Terms; 5.2 Communication Antennas; 5.3 EMC Antennas; 5.3.1 Receive Antenna and Antenna Factor; 5.3.2 Transmit Antenna Factor; 5.4 Antenna Calibration.
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Sommario/riassunto

This practical new resource explores the fundamentals of EMC engineering and examines the concepts and underpinnings of electromagnetics. This book highlights the procedures from design to market for both technical and non-technical issues, including market control, accreditation, calibration, EMC tests and measurement, and EMC protection. Basic electrical engineering theories, Maxwell equations, EM scattering, diffraction and propagation in the electromagnetic model are presented. The circuit model, including lumped parameter circuit elements, two-port circuit definitions, grounding, common and differential model currents, and microstripline circuits are explored.n nThis book also covers antennas and antenna calibration, including communication antennas, normalized site attenuation (NSA), loop antennas, and loop antenna calibration (LAC). Noise and frequency analysis on fundamental electromagnetic signals, noise, and transforms is explained. Readers find insight into EMC test and measurement environments and devices. Time-saving MATLAB code is included in this resource to help engineers with their projects in the field.